

## National Institute of Justice Help Implement Telemedicine Program

By Ronald J. Waldron

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Health care provisions in correctional facilities can be costly, difficult and present security risks. Telemedicine can alleviate some of these obstacles, but implementing a telemedicine program can be a daunting task and it may not be the right choice for all facilities. To help correctional administrators with these issues, the National Institute of Justice (NIJ) has funded a two-part project. The first part demonstrates the potential advantages of telemedicine. The second part guides facilities through the necessary steps of implementing a telemedicine system.

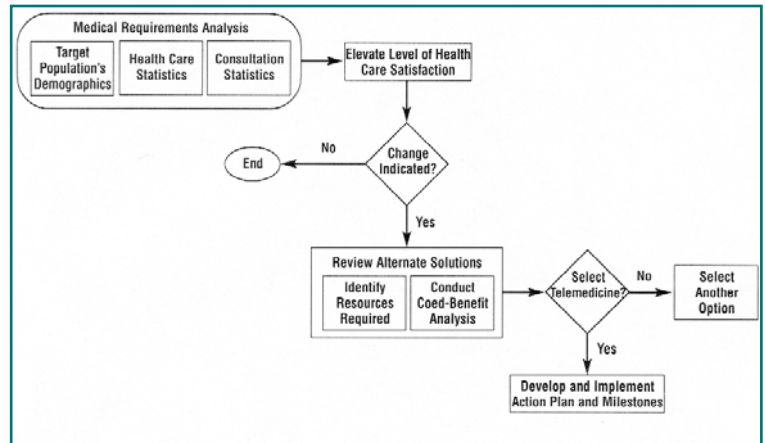
### A Successful Demonstration Project

In 1994, the departments of Justice and Defense established the Joint Program Steering Group (JPSG) to manage the development and testing of useful technologies. Telemedicine was deemed useful, therefore JPSG, in cooperation with the Federal Bureau of Prisons, conducted a three-year telemedicine demonstration project. Several federal prisons with different missions and security levels were connected through a telemedicine network — one of which was the Federal Medical Center (FMC) in Lexington, Ky. FMC Lexington and a local veteran’s administration hospital served as the hubs in the network, providing physician specialists and other health care professionals. An independent evaluation found that telemedicine could be a cost-effective method for providing health care to inmates in correctional settings. The results of the evaluation are published in NIJ’s 1999 research report, *Telemedicine Can Reduce Correctional Health Care Costs: An Evaluation of Prison Telemedicine Network*.

### Turning Research Into Practice

It is important to show the viability of an idea or program such as telemedicine, and it is just as important to take the next step and put that research into practice. The

Figure 1: Is Changing Health Care Providers Necessary?



success of the telemedicine demonstration project led NIJ to develop *Implementing Telemedicine in Correctional Facilities*. This report walks correctional administrators through the necessary steps to implement a telemedicine program, from deciding whether telemedicine is right for their facilities to giving examples of telemedicine procedures.

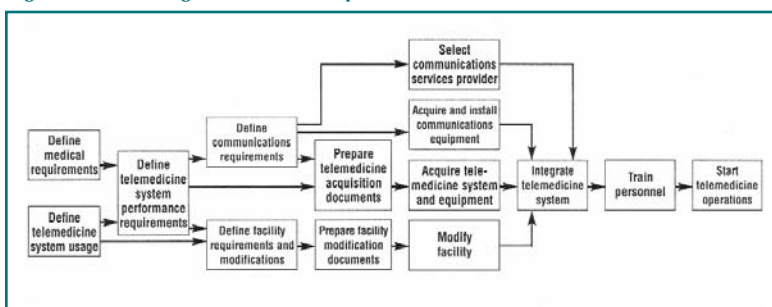
Telemedicine is any electronic means of providing health care services, for example, a consultation call between two doctors. In the context of NIJ-funded projects and this article, telemedicine is the use of interactive video between two or more health care providers. At one end of the teleconference arrangement is the consulting physician, and at the other, the patient and his or her health care provider. The patient’s provider describes the complaint and provides the consultant with relevant video pictures. For example, a dermatologist would be shown the patient’s skin disorder with a special camera and an orthopedist might be shown how the patient’s leg moves. Interactive video helps the consulting physician make a diagnosis.

### Is Telemedicine the Right Choice?

Although telemedicine has been shown to be a cost-effective alternative to delivering health care, it still may not work for every facility. For example, a prison located close to a major health care facility may be able to obtain all the support for health services it needs, making telemedicine less attractive or cost-effective. Figure 1 shows the various steps an agency should take in determining whether a change in health care provision is warranted.

First, a medical requirement analysis must be conducted to determine the services provided. The present and near-future extent of inmate health

Figure 2: Evaluating Telemedicine Options



care should be determined as well as the inmates' satisfaction with health care services. This also will provide baseline data in evaluating any new systems.

If the analysis indicates that a change is warranted, multiple alternatives, including telemedicine, should be considered. This process should include identifying the resources required for each alternative and performing a cost-benefit analysis for each.

If telemedicine is selected as the best health care provision, evaluating the telemedicine options is the next step toward implementation. Evaluation is part of the larger implementation process, which is outlined in Figure 2. Before implementation, it is critical to define medical requirements, telemedicine system use, and system performance and facility requirements. Once system use and the other requirements are defined, the next steps are to evaluate the available technologies and communication service providers, and create the necessary space for the system and its users.

*The right technology.* Telemedicine technology is unique and must be carefully evaluated and implemented. Cost-effective hardware, software and system features must be determined and identified. If services are to be provided within a particular specialty, the medical specialty requirements must be addressed. For example, providing dermatology services via telemedicine requires a special video camera.

*The right communication provider.* A variety of communication options are available and must be evaluated for cost and capability based on the services to be provided. The quality of the video image is affected by the type of communication services provided. Real-time interactive services will require greater bandwidth than a store-and-forward approach (taping sessions and transmitting them at a later date and time).

*Creating space.* Space must be identified and possibly modified to meet the needs of a telemedicine pro-

gram. The space for the telemedicine service must be near the health care operation in a secure environment and readily available to inmates making sick calls. In addition to the telemedicine equipment, equipment typically found in a physician's office must be supplied. Through careful planning and contracting, a successful suite of telemedicine equipment and space can be acquired.

Once communication requirements have been determined and evaluated based on agency needs, installation and equipment testing can begin. This effort often takes longer than anticipated — shipping of equipment may be delayed, the wrong equipment may be sent and the telephone company may not have the time nor the resources necessary to begin. Include extra time in the plan when considering the equipment's technical aspects and communication installation.

Plans and drawings must be created and implemented regarding the necessary facility requirements and modifications. Construction in a secure facility is not always easy. Communication lines may have to be installed through several old, thick walls. In older facilities, asbestos may have to be removed. These special needs must remain clear while developing and implementing construction and facility plans.

Perhaps the most important step in implementing the system is having the right people on board. New personnel may need to be recruited or existing personnel must be trained to operate the system because the presentation of patients for telemedicine is different. Without the full support of health care personnel, the telemedicine effort will not succeed.

Support from the administrative and security staff also is important for success. Without the approval and encouragement of institution leadership, most programs, including telemedicine, will fail. In addition, adequate funds and resources must be provided. Security personnel control the movement of inmates, and

without their support, telemedicine schedules cannot be maintained. When a highly paid consultant is sitting at one end of the connection, it is important that the inmate is sitting at the other end, ready to be examined.

Cost and quality of health care are critical in the decision to implement telemedicine. Telemedicine can improve the quality of services and can be cost-effective in a correctional environment. By gathering the relevant information and evaluating institutional needs, it can be determined whether telemedicine can provide quality care and be cost-effective.

The NIJ document, *Implementing Telemedicine in Correctional Facilities*, is designed to help make the decision and implementation processes as simple and straightforward as possible. The report contains useful tools for evaluating and planning for telemedicine. For example, it includes procedures for conducting certain telemedicine clinics, a listing of what information must be collected to conduct a medical analysis and spreadsheets with built-in formulas for conducting a cost-benefit analysis. The spreadsheets, including built-in formulas, are available electronically, along with the full document at [www.ojp.usdoj.gov/nij/pubs-sum/190310.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/190310.htm).

The NIJ research report, *Telemedicine Can Reduce Correctional Health Care Costs: An Evaluation of Prison Telemedicine Network*, can be found on NIJ's Web site: [www.ojp.usdoj.gov/nij/pubs-sum/175040.htm](http://www.ojp.usdoj.gov/nij/pubs-sum/175040.htm).

To order printed copies of either publication, contact the National Criminal Justice Reference Service at 1-800-851-3420.

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*Ronald J. Waldron, Ph.D., is a program manager for the System Planning Corp. in Arlington, Va. He is a retired senior executive of the Federal Prison System, a former New Jersey state trooper and a former U.S. Air Force air police officer.*